

APRIL/MAY 2023

**DAM41 — RECOMBINANT DNA
TECHNOLOGY**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define palindrome.
2. Name any two example of artificial plasmid vector.
3. What is the role of DNA ligase in cloning?
4. Mention any two examples of restriction enzyme.
5. Define MCS.
6. What is mean by blotting?
7. Define annealing.
8. What is differential display PCR?
9. Expand CCP and FDA.
10. What is germ cell and stomatic cell?

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Differentiate between the adaptors and linkers.

Or

- (b) Write a brief note on construction of BAC and their applications.

12. (a) How does reverse transcriptase enzyme work in genetic recombination?

Or

- (b) Explain about the restriction digestion and ligation process.

13. (a) Briefly describe about basics of pyrosequencing.

Or

- (b) Describe about screening of recombinants by alpha complementation method.

14. (a) Outline the working mechanism of overlap PCR.

Or

- (b) Write a brief account on principle and applications of gradient PCR.

15. (a) What is ISO 9000? Explain its salient features.

Or

- (b) Describe the steps involved in novel approach of hGH production.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. How are restriction enzymes used in recombinant DNA technology?

17. Classify the types of restriction endonucleases based on their properties.

18. Narrate the steps and enzymes involved in construction of cDNA library.

19. Discuss in detail about the cloning of PCR products. Add notes on DDPCR.

20. Explain in detail about techniques used for production of recombinant insulin. Add notes on its limitation.